

Advancing Gender Justice and Environmental Equity through Community

Participation: An Intersectional Perspective

Deepshikha¹, Chhura, Bikashdev² and Saha, Nilanjana³

¹Research Scholar, Department of Political Science, NIMS University, Jaipur, Rajasthan

²Assistant Professor, Department of Political Science and Public Administration, NIMS
University, Rajasthan

³Assistant Professor, Department of Political Science and International Relations, Amity
University, Noida, U.P.

Abstract

Gender justice transcends theoretical abstraction and functions as a critical framework for understanding gender disparities and the gender gap within specific historical and cultural contexts. The accessibility and equitable sharing of resources are inextricably linked to the effectiveness of policies and community initiatives aimed at addressing gender-based inequalities. Given that women are often more susceptible and vulnerable to the adverse impacts of environmental degradation, it is essential to examine the intersection between gender justice and environmental equity. Equally important is the recognition that women can serve as active agents of change in both environmental adaptation and mitigation strategies. These dynamics are reflected not only in political institutions but also in governance structures, underscoring the need to identify and implement gender-sensitive strategies in response to environmental and humanitarian crises. Such crises frequently arise from natural disasters and inequitable distribution of natural resources, conditions propelled by entrenched social hierarchies that exacerbate climate challenges and disproportionately affect marginalized groups. This paper presents an analytical study of how women are affected by environmental degradation, their responses to these challenges, and the role of community participation in addressing environmental inequalities, thereby contributing to the creation of a more equitable society. It also critically examines the obstacles, barriers, and impediments that women encounter—including gender-based violence, discrimination, limited access to land and resources, exclusion from decision-making processes, and insufficient community support for leadership roles. This analysis is conducted through the lens of

intersectionality, recognizing that multiple identities—such as race, class, and caste—intersect and compound to produce distinct experiences and complexities. In advocating for a holistic approach, this paper proposes actionable strategies to address these multifaceted challenges and foster a gender-inclusive and environmentally sensitive world.

Keywords: Gender Justice, Environmental Degradation, Environmental Equity, Challenges, Responses, Community Participation, Intersectionality, Holistic Approach

1. Introduction

The adverse effects of climate change can be broadly categorized into short-term and long-term impacts. Short-term effects typically arise from acute natural hazards such as floods, hurricanes, and landslides, whereas long-term effects manifest more gradually, progressively inflicting environmental damage over time. Both forms of impact have tangible and far-reaching consequences for critical sectors such as agriculture and food security, biodiversity and ecosystems, water resources, human health, migration patterns, energy, transport, and industry. Notably, in many of these domains, women are disproportionately vulnerable to the negative effects of climate change compared to men.

This heightened susceptibility is primarily attributed to the fact that women constitute a significant portion of the world's impoverished populations and are therefore more reliant on natural resources that are increasingly threatened by environmental changes. Furthermore, women continue to face socio-economic vulnerabilities and political barriers that constrain their capacity to adapt, often impeding their access to even basic human rights. Women in rural areas of developing countries are particularly affected, as they are frequently entrusted with vital responsibilities such as procuring water, food, and fuel for household use. The harmful consequences of environmental degradation intensify these burdens.

When compounded by inequitable access to resources, limited involvement in decision-making processes, and restricted mobility, rural women experience heightened adversity and are rendered more susceptible to the multifaceted impacts of climate change. Nonetheless, while women are disproportionately affected by environmental challenges, they simultaneously possess unique potential as agents of change in both the mitigation of and adaptation to climate change.

Women's substantial body of knowledge, accumulated expertise, and lived experiences can significantly inform climate adaptation, mitigation strategies, and disaster risk reduction. Additionally, as primary caretakers and custodians of cultural traditions within their communities—particularly in settings characterized by high levels of male out-migration—women emerge as natural leaders and stewards of both natural and household resources, well-positioned to contribute to the development and implementation of strategies tailored to evolving environmental realities.

In addition, it is relevant to enumerate the significance of the Sustainable Development Goals (SDGs) in the context of gender justice and their linkage with environmental sustainability. SDGs are not legally binding; they foreground the interconnected dimensions of social, economic, and environmental development—none of which can be fully realized without gender justice and the equitable distribution of environmental resources. Recognizing the pivotal role of gender equality within this framework, UN Women has identified 54 gender-specific indicators within the SDG Global Indicator Framework that directly target various aspects of gender inequality. These indicators, spanning multiple Goals beyond the explicitly gender-focused SDG 5, underscore the necessity for comprehensive strategies to monitor and accelerate progress towards gender equality within the broader context of sustainable development

This paper is organized into seven distinct sections. The first section serves as an introduction, establishing the research framework and rationale. The second section examines gender equality and environmental challenges, elucidating the connection between gender dynamics and environmental justice. The third section analyses the implications of climate change for women's rights, with particular emphasis on how the intensity and duration of climate-related phenomena contribute to the denial of these rights. The fourth section addresses gender-sensitive responses and the pursuit of environmental equity. The fifth section explores the role of intersectionality and community-led initiatives in advancing gender and environmental justice. The sixth section reviews theoretical frameworks, including the Sustainable Development Goals, underscoring their relevance and significance in promoting gender and environmental justice. Finally, the seventh section presents the concluding remarks, summarizing key findings and proposing recommendations for fostering a more inclusive, gender-equitable, and environmentally sustainable future.

2. Gender Inequality and Environmental Challenges

Women farmers in the developing world are responsible for producing between 45%–80% of all food, depending on the region. They make up, on average, about 43 per cent of the agricultural labour force in developing countries, with even higher proportions in regions like sub-Saharan Africa and Southeast Asia. In several African countries, this figure exceeds 60 per cent (United Nations Environment Programme. (2017). *Global gender and environment outlook 2017*. UNEP. Despite their central role in food production, women face significant barriers that undermine both their productivity and their resilience to climate change. Barriers include:

1. Limited access to land, credit, agricultural inputs, and decision-making within households and communities.
2. Exclusion from productive resources leads to lower crop yields and reduced income compared to men.
3. Increased vulnerability to food insecurity as climate change makes harvests more unpredictable, reduces biodiversity, and causes food prices to rise.

Climate change threatens food security in four key ways: availability, accessibility, utilization, and stability of food systems. Guedes, W. P. (2024). Gender-based climate (in)justice: An overview. *Environmental Development*, 82, 45-56. As traditional sources of food become less reliable, women—who are often both producers and primary household food providers—face a greater loss of income and higher food costs, deepening risks of hunger and malnutrition for themselves and their families, and deforestation has a disproportionate impact on poor communities, especially women. Deforestation, responsible for about 20 per cent of global CO₂ emissions, destroys critical resources like drought-resistant crops and mangrove ecosystems, heightening the risks of drought and flooding. United Nations Environment Programme. (2017). *Global gender and environment outlook 2017*. UNEP.

Depletion of fish stocks severely affects communities that depend on artisanal fishing, where women often play a key role. Loss of forest resources means women must travel further for fuelwood, increasing their workload and hardship and sometimes exposing them to greater physical risk or violence. Water Scarcity caused or exacerbated by climate change increases the burden on women and girls, who are typically tasked with fetching water. They spend significant

time collecting water from ever more distant sources, increasing their exposure to health risks and reducing the time available for education or other productive activities.

Environmental degradation and disasters such as cyclones or desertification often result in forced migration. This disrupts families and frequently leaves women behind to manage degraded land, exacerbating their economic and social disadvantages.

Other consequences include:

1. Increased exposure to disease (like malaria and dengue) due to environmental changes
2. Heightened risks of sexual and gender-based violence during resource collection or in unstable situations caused by migration

Enabling women's non-discriminatory access to land, resources, and decision-making is widely recognized as a prerequisite for improving food security and supporting the resilience of rural communities. Chakraborty, J., & Walker, G. (2021). Environmental justice in India: A review. *Current Opinion in Environmental Sustainability*, 49, 1-10. Closing the gender gap in agriculture could increase productivity and reduce global hunger significantly

Table1: Aspects of impact, consequent impact of gender justice & Environmental Equity

Aspects of Impact	Gender Justice Impact on Environmental Equity	Environmental Equity Impact on Gender Justice
Decision-Making	Inclusion leads to equitable resource allocation	Equitable processes faster gender-balanced governance
Access to Resources	Gender-sensitive laws reduce socio-economic disparities	Resource equity lessens gendered vulnerability
Policy Effectiveness	Diverse input yields more sustainable results	Equitable policies amplify women's empowerment
Human Rights Protection	Promotes equal environmental rights	Environmental rights reinforce gender justice

3. **Implications of Climate Change for Women's Rights** Research indicates that global warming and extreme weather events can have devastating human rights impacts on millions of people. International Institute for Environment and Development. (2023). Climate change and

gender justice. IIED. Global warming significantly contributes to issues such as world hunger, malnutrition, increased exposure to diseases, and reduced access to clean water. Additionally, it restricts adequate housing opportunities and leads to the loss of livelihoods due to forced displacement.

Climate change undermines the economic and social rights of many individuals, including their rights to food, health, and shelter. As climate change continues to affect humanity, protecting the human rights of those most vulnerable remains a top priority for the United Nations. Gender inequality significantly undermines the effectiveness, inclusivity, and sustainability of community efforts aimed at achieving environmental equity. It is not merely a social construct, but a profound human rights issue. Merchant, C. (1996). *Earthcare: Women and the environment*. Routledge.

When combined with environmental injustices, gender inequality presents serious socioeconomic barriers for women, limiting their agency, decision-making power, and ability to participate fully in society. Discrimination based on gender often excludes women and girls from environmental decision-making and deprives them of an equitable share in the benefits provided by nature. In the absence of their equal participation, crucial perspectives and local knowledge are excluded from planning and implementation processes.

Gender inequalities—such as limited rights to land ownership and diminished access to essential resources like energy, water, and sanitation—impact not only women’s health and well-being but also hinder environmental protection and sustainable development. Youth and Environment Europe. (2023). *Intersectionality and environmental justice toolkit*. YEE. These inequalities restrict women’s ability to exercise their fundamental rights and limit their capacity to lead or benefit from community environmental initiatives.

International Laws/Provisions	Focus Area	Key Features
Universal Declaration of Human Rights (UDHR)	Gender Justice	Asserts equality and non-discrimination for all, including gender equality as a fundamental human right
Convention on the Elimination of All Forms of	Gender Justice,	Requires states to eliminate discrimination against women, ensure their equal rights before

Discrimination Against Women (CEDAW)	Environmental Equity	the law (Article 15), and calls for gender-responsive action on environmental issues, including access to justice in environmental matters
Agenda 21 (UNCED, 1992)	Gender, Environment	Outlines women's role in environmental management and sustainable development; urges full participation of women in environmental decision-making
Convention on Biological Diversity (CBD)	Gender, Environment	Recognizes and facilitates women's role in biological resource management; promotes gender-responsive conservation and sustainable use
UNFCCC Gender Action Plan	Gender & Climate Justice	Mainstreams gender in climate policy and implementation, advancing women's participation and leadership in climate action
SDG 5 & SDG 13 (UN 2030 Agenda)	Gender & Environment	SDG 5: Achieve gender equality; SDG 13: Take climate action with a focus on gender impacts and equity.

Table 2: International Laws/Provisions, Focus Area, and Key Features

The ongoing “triple planetary crisis”—climate change, biodiversity loss, and pollution—exacerbates these burdens for women. Office of the United Nations High Commissioner for Human Rights. (2022). Human rights, the environment and gender equality. OHCHR. For instance, as primary land managers and food providers, women are often more exposed to the risks posed by pollution and environmental degradation, yet commonly have the least power to shape solutions at both the community and policy levels.

As emphasized by Inger Andersen, Executive Director of the UN Environment Programme: “Environmental decision-making must be inclusive and involve all voices, including equal participation from women. The triple planetary crisis...places a triple burden on women.” Therefore, the UN and its allied bodies have enacted several laws with a focus area spanning from gender justice to environmental justice, indicating a clear understanding of the relationship

between eliminating gender inequality and protecting the environment, where women should have more agency and participation as key stakeholders in countering the detrimental effects of climate change and developing mitigation and adaptation strategies.

4. Gender-Sensitive Responses and Environmental Equity

Four key areas have been identified as essential pillars in the fight against climate change: mitigation, adaptation, technology transfer, and financing. United Nations Development Programme. (2024). Joint study on opportunities and challenges for gender-inclusive environmental justice. UNDP. The first two—mitigation and adaptation—address the direct effects of climate change, while the latter two focus on the means to achieve sustainable development goals. Mitigation involves reducing greenhouse gas emissions from human activities, such as fossil fuel use and deforestation, to stabilize their concentration at a safe level. Adaptation includes various efforts to decrease vulnerability and enhance resilience in crucial sectors like water, agriculture, and human settlements.

In addition, advancing new and improved technologies and establishing effective financing initiatives across all levels are vital for collective climate action. Efforts in mitigation and adaptation must specifically and systematically consider the gender-specific impacts of climate change in areas such as food security, agriculture and fisheries, biodiversity, water, health, human rights, and peace and security. Financing mechanisms should be flexible enough to priorities women's needs and perspectives. Women's active participation in shaping funding criteria and resource allocation—especially at the local level—is crucial.

To ensure gender-sensitive investments in climate programs, all budget lines and financial tools related to adaptation, mitigation, technology transfer, and capacity building should undergo thorough gender analysis. Technological innovations concerning climate change should reflect women's priorities, needs, and roles, drawing on their knowledge, including indigenous wisdom and traditional practices. Involving women in technology development helps guarantee that solutions are user-friendly, affordable, effective, and sustainable.

It is also important to address gender disparities in access to resources like credit, extension services, information, and technology when designing climate initiatives. Women must have equal opportunities for training, credit access, and skills development to fully engage in climate change efforts. Governments are therefore encouraged to integrate gender perspectives into national

policies, action plans, and related sustainable development and climate change measures. This can be achieved through systematic gender analysis, collection and use of sex-disaggregated data, establishing gender-sensitive benchmarks and indicators, and creating practical tools to promote greater attention to gender issues.

Gender Equality and Energy Security

Energy is a critical sector, and renewable energy is widely recognized as an essential technology for combating climate change. However, the role of women in energy is often overlooked. Energy is typically associated with electricity to power appliances and equipment, gasoline and diesel fuels for vehicles, and the distribution of oil and natural gas. These energy domains are traditionally viewed as men's work, resulting in women being excluded from power generation and fuel distribution roles. Consequently, women receive less training and are rarely included in discussions about energy planning and policy-making. This exclusion means women do not contribute to developing key strategies for climate change mitigation.

In many developing countries, especially in the poorest regions, most energy comes from traditional biomass fuels like wood, charcoal, and agricultural waste—tasks primarily managed and carried out by women. The failure to recognize women's central role in this sector results in gender-blind energy policies that overlook crucial factors necessary for developing countries to adapt to and mitigate climate change effectively.

The connection between energy access, gender roles, and climate change is most evident in countries with limited access to electricity and modern fuels, where reliance on biomass for cooking, heating, and lighting is high. Nearly two billion people in developing regions depend on traditional biomass fuels as their main energy source. Chakraborty, J., & Walker, G. (2021). Environmental justice in India: A review. *Current Opinion in Environmental Sustainability*, 49, 1-10. In these contexts, cultural norms assign women the responsibility of gathering fuel and preparing food, often requiring long hours of hard physical labour or travelling extended distances. Environmental degradation exacerbates these challenges, forcing women to spend even more time collecting firewood, fetching water, working the land, and grinding grains. Given these substantial responsibilities, women in developing countries must be actively involved in national energy decision-making. Increasing women's participation will help manage energy resources more

effectively and productively in the face of climate change. It will also reduce dependence on biomass fuels, helping lift communities out of extreme poverty.

Gender Justice and Technology Adaptation to Climate Change

Technology is never gender-neutral, and when coupled with the negative effects of the changing climate, it is even less gender-sensitive. In many developing countries, the access of girls and women to information and communication technology is constrained by: social and cultural bias, inadequate technological infrastructure in rural areas, women's lower education levels (especially in the fields of science and technology) and the fear of or lack of interest in technology, and women's lack of disposable income to purchase technology services.

Since the United Nations Framework Convention on Climate Change (UNFCCC) positioned clean technologies at the centre of global responses to climate change, technology has become increasingly relevant in adapting to and mitigating climate change. At the same time, a number of UN mechanisms and frameworks have started to address climate change and technology. Furthermore, the Clean Development Mechanism (CDM), which emerged from the Kyoto Protocol, enables industrialized countries to invest in projects that reduce emissions in developing countries as an alternative to more expensive emission reductions in their own countries.

The problem, however, is that to date, gender equality is given minimal attention, and the degree of difference in the impact of climate change on women and men has been overlooked. It is important to point out that equal inclusion of women and men in all aspects of climate change projects, including technology, pays off; this is especially true in the case of technologies aimed at tasks most frequently performed by women. In order to be effective, adaptation and mitigation technologies need to reach those who are most in need –the poor and vulnerable. This means that targeted efforts must ensure firstly that it is understood that the situation of women may differ from that of men, secondly that technologies are designed in such a way as to be relevant to their circumstances and thirdly to ensure that they are given full access to knowledge, information and technologies related to adaptation.

Gender Equality and Financing of Mitigation, Adaptation and Technology

Addressing climate change requires substantial resources to cover the costs of goods, services, and technologies needed for implementation across both developing and developed countries. Climate

finance instruments must be tailored to fit the economic development levels of various nations worldwide. However, factors such as gender inequality in access to social and physical assets, disparities in education, income, time use, and leisure, along with gender-specific roles and responsibilities within households, communities, and labour markets, impede the effective allocation of these funds to women.

Firstly, women's ability to respond to and cope with climate change challenges depends heavily on the strength of their health and well-being, as well as the support provided by their social networks. Secondly, their capacity to adapt to climate change impacts is influenced by the degree of control and access they have over economic and financial resources. Addressing risks, disaster preparedness, and weather-related challenges driven by climate change demands resources that exceed everyday household needs.

Empowering and investing in women is crucial for tackling desertification and advancing poverty reduction efforts, particularly in the world's least developed countries. Despite this, the current climate finance system limits women's access to funds that cover weather-related losses or support adaptation and mitigation efforts, hindering their ability to effectively manage climate change impacts.

Gender Justice and Human Security

Women's heightened vulnerability during and after disasters is driven by multiple factors. Following a disaster, women are more likely to end up in overcrowded and unsafe shelters due to limited access to financial resources, property, or land. In emergencies that require quick movement—such as floods or cyclones—cultural restrictions on women's mobility may delay their evacuation or limit their access to health care and safety.

Additionally, fears of domestic and sexual violence often discourage women from seeking shelter, especially as they are frequently the primary caregivers in families. These challenges are even more pronounced for poor women and those in societies with high gender inequality. Studies show a direct correlation between a woman's societal status and her ability to receive appropriate health care during crises. The United Nations recognizes environmental degradation as a critical threat to human security, especially in post-conflict settings. Office of the United Nations High Commissioner for Human Rights. (2022). Human rights, the environment and gender equality.

OHCHR. These issues can destabilize peacebuilding efforts and disproportionately affect women, who often face multiple layers of hardship.

To address the above-described challenges, it is vital to adopt gender-sensitive approaches in responding to environmental and humanitarian crises, including those caused by climate change. Key actions should include reducing gender-specific vulnerabilities, ensuring emergency responses consider both women's and men's needs, and involving women in disaster management decisions. Empowering women as leaders and contributors in mitigation and adaptation efforts not only strengthens community resilience but also draws on their unique skills and resourcefulness.

5. Intersectionality and Community-led Initiatives

Kimberlé Crenshaw describes intersectionality as "a lens through which you can see where power comes and collides, where it interlocks and intersects." Simply put, intersectionality is a framework used to understand how individuals, groups, or social issues are shaped by multiple, overlapping forms of discrimination and disadvantage. According to intersectional theory, people experience oppression in complex ways due to various identity markers such as race, gender identity, religion, sexual orientation, culture, and more. Youth and Environment Europe. (2023). Intersectionality and environmental justice toolkit. YEE. These overlapping identities create a multidimensional experience of prejudice that cannot be understood fully when examined separately. By acknowledging these intersecting identities and experiences, we gain a more nuanced understanding of the unique challenges faced by individuals.

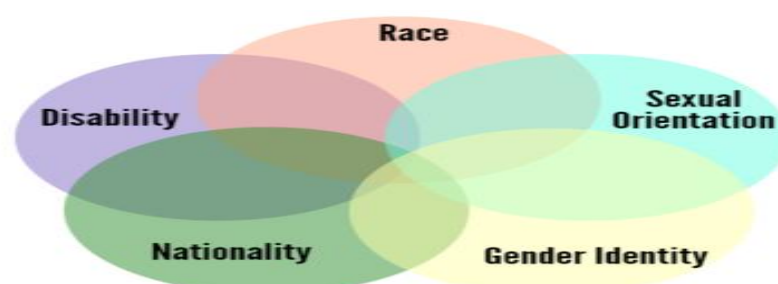


Figure 1: Intersectionality and Overlapping Identities

Applying this concept to environmentalism gives rise to the idea of environmental intersectionality. Coined by Black climate activist Leah Thomas during the height of the Black Lives Matter movement following George Floyd's murder, intersectional environmentalism is

defined as an inclusive approach that advocates for the protection of both people and the planet. It recognizes that the injustices disproportionately affecting marginalized communities and environmental degradation are deeply interconnected. This approach highlights how social inequities and ecological harm overlap, ensuring that the struggles of vulnerable communities are not overlooked or minimized. Intersectional environmentalism calls for justice that simultaneously addresses the needs of both marginalized people and the natural world, advocating for a more equitable and sustainable future.

Community-Led Initiatives Addressing Gender and Environmental Inequalities

UGANDA:SASA:- This is a participatory initiative to empower community leaders, activists, and to facilitate talk and conversations about gender-based norms and power dynamics to address violence and exploitation against women in society. Boda, P. A. (2023). Environmental justice through community-policy collaboration. *Environmental Justice*, 16(1), 10-18. It aims to involve local communities extensively and has been successful in shifting certain orthodox norms and customs targeting women in general. It has helped to decrease violence against women and girls and to foster collective community responsibility to create a level playing field and the acceptability of women as equal person having their own agency.

Mothers Associations (Benin): - It is a unique initiative to mobilize women at the community level to reduce domestic violence and change social attitudes and behavior to bring about gender equality. It works through organizing capacity-building activities and fostering solidarity as well as promoting women-led solutions to redress problems centred on gender and its associated norms. Promotion of decision-making in areas like reproductive health, education, and economic opportunities is key to the success of this movement.

Chicago's Community-Based Participatory Design for Bringing Environmental Justice: - Communities in Chicago, especially the Black, Asian, and Latinx groups, in partnership with researchers, designed and implemented local environmental justice (EI) policy decisions. It aims to bring marginalized communities to the centre of environmental data collection and advocacy, to ensure collective decision-making and inclusion of lived experiences of these communities.

Increasing Public Engagement: - Many states in the United States of America involve community advisory groups and several public platforms as well as forums to broaden the scope of decision-making and discussion about permits for projects which has negative consequences on the

environment, such as waste management. Boda, P. A. (2023). Environmental justice through community-policy collaboration. *Environmental Justice*, 16(1), 10-18. This ensures inclusion of all stakeholders- most often those who are at direct risk of environmental harm, leading to more equitable and just outcomes.

Women's Climate Activism:- In different regions of the world, indigenous women are at the forefront to lead resistance and mitigation movements to reduce environmental risk and address injustices rooted in intersectional experiences of both gendered and environmental exploitation where gender based discriminatory social mores and norms combined with environmental exploitation have greater and far-reaching consequences for communities which require participation and holistic approach to reverse and mitigate harmful effects of environmental degradation Shiva, V. (1997). *Staying alive: Women, ecology and development*. Zed Books. These indigenous women-led movements are guided by indigenous principles of land Stewardship, which challenge corporate and governmental practices and try to build new forms of alliances and structures that will address multiple levels of marginalization.

Community Engagement and Environmental Planning: - Online platforms like Glocal are quite popular to create real communities to engage women, people of colour, low-income populations, and environmental activists to rally support for more transparent processes for waste management, transportation and climate adaptation. Sultana, F. (2022). The unbearable heaviness of climate coloniality. *Political Geography*, 107, 102638. Such movements are focused on prioritizing input and experience from those who face compounded environmental and gender vulnerabilities. Such platforms help to correct historic inequalities and promote sustainable planning and development.

Community Awareness Initiative in Tanzania: - In Tanzania, initiatives aimed at eliminating child marriage, gender-based violence, and female genital mutilation by working directly with rural communities to promote girls' education, economic opportunities and independence for women through joint campaigns, training and meetings that involve the whole community, including men. This intersectional and holistic approach helps to shift cultural attitudes and structures and create sustainable socio-economic equality.

Policy-making and Intersectionality: - Intersectional climate justice framework is one such initiative at the policy level that recognizes the need to involve all stakeholders spanning across gender, race and class because all these identities intersect to create a domino effect if not

addressed simultaneously. Walker, S. E. (2024). Defining and conceptualizing equity and justice in climate adaptation. *Climate Policy*, 24(2), 201-219. The issue of climate change, access to resources, and exercise of rights can be better understood in the specific context of specific people who are marginalized and face direct threat from society and risk of environmental harm at the same time, and therefore, community-led development can tackle both gender and environmental injustices, resulting in effective outcomes for these communities.

India: A Case Study on How Gender Movements Led to Environmental Justice: -

In the case of India, it is noteworthy that due to extensive efforts by the government, Non-Government Organizations and civil society, the overall sex ratio in the country (females per thousand males) has improved from 946 in 1951, 940 in 2011, to 1020 in 2021 (National Family Health Survey 2019-2021). However, despite making strides to achieve gender equality, India ranked 129th out of 146 countries in the 2024 World Economic Forum's Global Gender Gap Index, faring abysmally poor in economic and political participation parameters.

The paper elaborates on the causes for poor gender ratio and gender disparity below, which indicates the close connection between women's socio-economic vulnerabilities to lack of participation and decision-making in terms of accessibility to natural resources, specifically land, protection and conservation of these resources and later, I will discuss how gender-based movements become pivotal in leading environmental movements in India.

Socio-Cultural Inequality

Sex Ratio: Even though, as per the National Family Health Survey-5, the Overall Sex Ratio in India stands at 1020 females per 1000 males. But the Sex Ratio at Birth remains low at 929, which indicates continued sex selection at birth and differential treatment towards girl children.

Status of Maternal Mortality Rate: According to the Special Bulletin on Maternal Mortality Rate released by the Registrar General of India, it stands at 97 per lakh live births for the period 2018-20. It shows a discriminatory pattern of behavior against women as they suffer and die due to negligence and delay.

Alarming Problem of Malnutrition: As per the National Family Health Survey-5, in India, 18.7% of women aged between 15-49 years are underweight, 21.2% of women aged between 15-49 years are stunted, and around 53% of women aged between 15-49 years are severely anaemic.

Status of Education: According to the National Family Health Survey-5 (2019-21), the literacy rate among females in India is 70.3% as compared to about 84.7% for men.

Gender-Based Violence and Abuse: According to the National Crime Records Bureau's "Crime in India" 2021 and 2022 report, National Crime Records Bureau. (2023). Crime in India: 2022 statistics. Ministry of Home Affairs, Government of India. Over 4 lakh cases of crimes against women were recorded in the year 2021. During the period (2018-22), 12.9 per cent of crimes against women increased. National Crime Records Bureau. (2022). Crime in India: 2021 statistics. Ministry of Home Affairs, Government of India.

Child Marriage Incidents: According to the National Family Health Survey-5, 23.3% of women aged between 20-24 years were married off or in a union before age 18, which is a worrisome trend as it reverses the strides made so far against early marriages.

Economic Disparity

Lack of Employment: According to the latest Periodic Labour Force Survey report for May 2025, released by the National Statistical Office, around 31.3 per cent of females in the working age group (15 years and above) were in the labour force, with only 35.2 per cent in rural settings and 23 per cent in urban areas. National Statistical Office. (2025, May). Periodic Labour Force Survey (PLFS). Ministry of Statistics and Programme Implementation, Government of India.

Informalization of Female Workforce: As per the International Labour Organization, 81.8 per cent of India's female labour force is employed in the informal economy, which indicates that the majority of the female workers in India are not able to get into high-paying jobs.

Wage Gap Between Genders: The wage gap between men and women in India is among the widest in the world. According to the statistics of the Global Gender Gap Report 2021, on average, women in India were paid 21 per cent less income than men, and in its 2024 edition, India ranked at 129th place out of 146 countries.

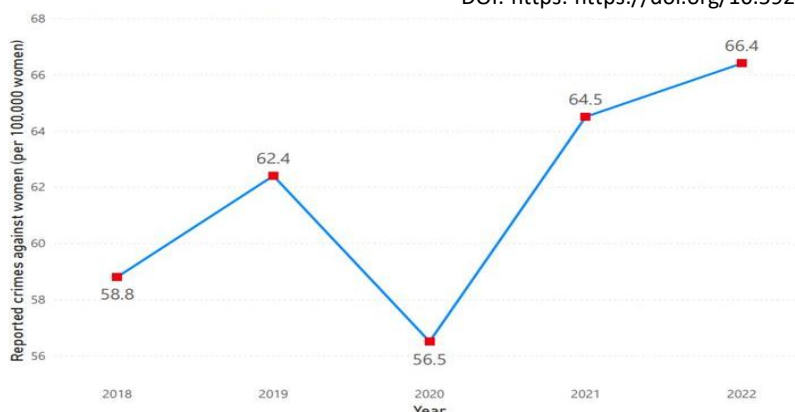


Figure 2: Crime against women increased by 12.9% from 2018 to 2022(NCRB 2021 & 2022)

Political Inequality

Parliament: Currently, only about 14.9 per cent of the total number of Members of Parliament (MPs) are women, which reflects the abysmal state of women's representation in the largest democracy.

State Legislatures: According to the Election Commission's Official data, as of December 2023, the average female representation in State Legislatures is only 13.9 per cent. It indicates the need to change the status quo by increasing the political participation of women.

Local Panchayats: Even though, as per the data of the Ministry of Panchayati Raj, 2023, around 46.94 per cent of panchayat elected representatives are women, but the prevalence of malpractices like Sarpanch-Pati' culture, corruption, bureaucratization, caste politics and involvement of political parties mars effective women representation at the panchayat level as well.

Grassroots Movements Led by Women in India

Chipko Movement (1980s, Uttarakhand): -This movement originated in the Himalayan foothill state of Uttarakhand, led by visionary women leaders like Gaura Devi and Bachni Devi to protect the forest against commercial logging or exploitation. It was a direct collective action where women became agents of protest by hugging trees to stop the destruction of the fragile ecosystem, disproportionately affecting their livelihood, community life and biodiversity. It was a landmark initiative in eco-feminism and the beginning of intersectional activism in India.

Narmada Bachao Movement: - This movement was led by Medha Patkar and women of affected communities, where the protest was against the building of a large dam project on the Narmada River, which has threatened to displace the tribal population, along with marginalized women who possessed little ownership over land or assets. It highlighted the importance of women's voices in decision-making making which affects their homes, livelihood, and environment.

Silent Valley Movement (Kerala, 1970s and 1980s): - This movement was started by noted environmentalist and poet Sugathakumari, who played a pivotal role in stopping dam construction in the Silent Valley rainforest, which was set to destroy the fragile ecosystem, biodiversity and communities around that forest.

Navdanya (founded 1982, multiple regions): -This initiative was started by Dr. Vandana Shiva, one of the leading environmental activists, to promote organic farming, biodiversity protection and seed sovereignty. It trains rural women in eco-friendly agricultural practices, creating self-help groups for the economic empowerment and protection of the environment.

SEWA: - It is a self-employed women's association in Gujarat which has educated and mobilized rural women around water harvesting and management so that watershed areas can be protected and agricultural productivity can be raised without harming the environment. It has been a successful initiative touching over 2,00,000 women in 500 villages.

Mission Shakti: - The initiative called “Mission Shakti” in Odisha supports women self-help groups in socio-economic and environmental decision-making at the grassroots level. Its purpose is to make them active agents in the Gram Sabha decision-making body, which takes decisions on matters like land use, livelihood, and infrastructure, including water and sanitation projects, which have a direct relation with environmental Protection and cleanliness.

Community-led slum sanitation: - This community-led movement is situated in Gwalior, Madhya Pradesh, where women collectives have led the design, implementation and maintenance of community toilets under the slum environmental sanitation initiative. It helps to strengthen women's negotiation power in local governance and infrastructure management, like Lakshmanpura, as well as improve civic health.

Kinkri Devi anti-quarrying: - The anti-quarrying campaign led by Kinkri Devi in Himachal Pradesh has been successful as a grassroots movement against destructive limestone mining in

Sirmour district, leading to judicial intervention protecting local water resources as well as biodiversity.

Etalin dam: - This movement is based in the state of Arunachal Pradesh, led by indigenous Mishmi women and their communities against the proposed dam, which threatened sacred sites, forests and the livelihood of the community. It highlighted the exclusion of women and tribal voices from environmental government at large.

In conclusion, it can be established that environmental burdens in India often fall hardest on women who are also members of indigenous and marginalized communities. This intersectionality is visible in resistance to displacement and resource extraction, demonstrating that equitable environmental decision-making must shift at the margin where women have an equal voice.

1. Theoretical Models: SDGs and Gender-Environmental Justice

The Sustainable Development Goals (SDGs), gender justice, and environmental justice are deeply interconnected. Achieving gender equality is essential for sustainable development, as women and girls are often disproportionately affected by environmental degradation and poverty. Environmental justice ensures that everyone has equal access to a healthy environment, which supports the broader goals of sustainable development and aligns closely with the pursuit of gender equality.

SDG 5 (Gender Equality) is particularly linked to environmental issues and justice. For instance, access to clean water and sanitation (SDG 6) is heavily influenced by gender inequality, as women and girls are frequently responsible for collecting water and managing household sanitation needs. Gender justice addresses the unique challenges that women and girls face in environmental contexts, such as increased vulnerability to the impacts of climate change and limited access to resources like land and clean energy. Meanwhile, environmental justice seeks to guarantee that all individuals, regardless of gender, race, or socioeconomic status, have equal opportunities to live in healthy and safe environments. Together, these approaches strengthen the foundation for achieving the SDGs and creating a more just and sustainable world.

The purpose of theoretical frameworks and approaches is to develop a deep and insightful understanding of the social, economic or political problems so that effective policies are

formulated and actionable goals are set to achieve sustainable and stable outcomes, which will act as templates for future action and research work.



Figure 3: Sustainable Development Goals Focus on Gender and Environment

Amartya Sen's Model: Capabilities Approach

Amartya Sen's Capabilities Approach provides a multidimensional perspective for understanding, tackling, and ameliorating gender inequality. Sen emphasized that development must not be measured just in terms of economic growth, statistics or resource allocation, but by the increase or enhancement in individuals' "capabilities"—their actual freedoms to live the lives according to their choices. In his seminal work on “missing women”, Sen aptly drew attention to the millions of missing girls and women who are lost because of neglect, gender-biased behaviour, and unfair treatment. Sen, A. (1999). Development as freedom. Oxford University Press.

Therefore, interventions must aim to increase substantive or real freedoms, such as the freedom to attend school, access to healthcare, freedom from violence and freedom to exercise her agency for decision-making to bring transformative changes with a focus on establishing such social arrangements and building political institutions that will create a secure and thriving environment for girls and women.

Naila Kabeer's Model: Empowerment Approach

Naila Kabeer's approach is based on the acknowledgement that substantive gender equality can't be achieved only by formulating laws, policies or providing economic incentives, but by widening and developing capabilities with the ability to make real-time choices, respect and total acceptance of those choices by society, and enjoying protection and support from the government. She

vehemently opposed the attitude of patronage, either by the state or society, which is inherently patriarchal and treats women as objects of patronage rather than as free individuals, Kabeer, N. (1999). Resources, agency, achievements: Reflections on the measurement of women's empowerment. *Development and Change*, 30(3), 435–464.

She focused on three interconnected dimensions to achieve the goal of gender equality: resources, agency, and achievement. Resources include not just physical assets but also social and human resources such as social capital, trust, network, and abilities. Agency is the capacity to decide and to act on one's own volition without external threat, coercion and pressure. to set one's aims and act on them, including individual decision-making and collective action. Achievements are the outcome of the exercise of one's agency.

Kabeer's model furthers and supports Sen's Capabilities Approach by promoting the processes by which resources are transformed and channelized into agency and achievements. It highlights the necessity of context-specific interventions that take into account the lived experiences of women and provide solutions accordingly.

Martha Nussbaum's Model: Capabilities-Empowerment Approach

Martha Nussbaum's model is an extension of Amartya Sen's capability approach, and Naila Kabeer's empowerment approach, which underscored the significance of inculcating and protecting what she called as central capabilities, such as bodily integrity, health, education and political participation. She identifies these substantive freedoms to be quintessential to tender women's empowerment because without these capabilities, the aim of a gender-equal society is far-fetched and remains susceptible to social fragilities and political patronage (Nussbaum, M. C., 2000). *Women and human development: The capabilities approach*. Cambridge University Press. Therefore, it is important to educate all the stakeholders to understand the interlinkage of capability to empowerment. Naila Kabeer builds on the theoretical framework provided by both Sen and Kabeer, recognizing the revolutionary transformations that these approaches can undertake if set in the right context, with the right intent and right action.

Ecofeminist Model An ecofeminist model is a theoretical and practical framework connecting feminism and ecology, emphasizing the intertwined oppression of women and the environment. It critiques patriarchal, capitalist, and colonial systems that dominate both nature and marginalized groups, and proposes a justice-centred, sustainable alternative. Key thinkers of this model are

Vandan shiva, Caroyln merchant, Val Plumwood and Marie Miles. The below are its core principles

Interconnected Oppressions

It recognizes that women and nature are jointly exploited under patriarchal, capitalist, and colonial systems, and that violence against the earth is often linked to violence against women.

Critique of Dualisms:

Challenges sharp divides such as mind/body, culture/nature, and male/female that often degrade the "feminine" and the natural. Ecofeminism favours relational and non-hierarchical thinking.

Embodiment and Care

Values emotional intelligence, care work, and embodied knowledge—qualities frequently undervalued in patriarchal societies. Argues for care ethics as foundational in environmental and social policies.

Decentralized, Indigenous Knowledge: -

Uplifts Indigenous wisdom, traditional ecological knowledge, and community-driven solutions, preferring these over technocratic and centralised control.

Nonviolence and Sustainability:

Advocates for non-exploitative, peaceful relations among humans and with the environment, embracing ecological sustainability based on harmony rather than dominance.

Intersectional Ecofeminism

Intersectional ecofeminism builds upon traditional ecofeminism by recognizing that the oppression of women and the environment is complex and shaped by intersecting factors such as race, class, sexuality, ethnicity, and ability. Guedes, W. P. (2024). Gender-based climate (in)justice: An overview. *Environmental Development*, 82, 45-56. This perspective emphasizes that gender and environmental injustices are inseparable from multiple axes of power, privilege, and discrimination, and must be addressed through an inclusive, multifaceted approach. Intersectional ecofeminism challenges interconnected systems like patriarchy, capitalism, and colonialism that jointly oppress women, marginalized groups, and nature, highlighting issues such as environmental racism, classism, and heterosexism. Unlike more essentialist forms of ecofeminism, intersectional ecofeminism values diversity among women and other groups, rejecting hierarchies based on gender, race, or identity.

Central to this approach is the recognition that people's experiences of environmental harm are shaped by their unique social and cultural contexts, and that real liberation for women and nature requires addressing these varied, context-specific experiences of oppression and privilege. Intersectional ecofeminism also seeks to build alliances across social movements, fostering solidarity while respecting difference, and prioritizes the voices and knowledge of those most marginalized, such as women of colour, Indigenous women, and others who are directly impacted by social and environmental harms.

While traditional ecofeminism sometimes idealized universal experiences, intersectional ecofeminism insists on engaging with the complex realities of lived experience. In practice, intersectional ecofeminists advocate for environmental policies that address issues like racialized pollution and health disparities, support the work of Indigenous and Global South environmental defenders, and design ecological solutions that take existing inequalities into account. By weaving together these perspectives, intersectional ecofeminism offers a more nuanced, effective, and just framework for both feminist and environmental theory and activism.

Climate Justice Frameworks Model

A climate justice framework model offers a comprehensive approach to tackling climate change by prioritizing justice, equity, and human rights. It acknowledges that marginalized and vulnerable communities are disproportionately affected by climate impacts, so solutions must ensure a fair distribution of both burdens and benefits. The model typically revolves around four key pillars: mitigation, which focuses on reducing greenhouse gas emissions while considering equitable responsibility; adaptation, which involves creating strategies that help vulnerable populations cope with climate change effects through inclusive participation; remediation or loss and damage, which addresses the harm already inflicted by climate change by providing reparations and support to affected communities; and transformation, which seeks broad systemic changes in economic, social, and political structures to promote sustainability and justice. LeClair, J. (2022). Defining climate justice in nursing for public and planetary health. *Nursing Inquiry*, 29(3), e12428.

These components are grounded in human rights principles such as non-discrimination, intergenerational equity, the polluter pays principle, and just transitions for workers and communities. The framework emphasizes procedural justice by advocating for fair and transparent

processes as well as the importance of intersectionality, recognizing the diverse identities and vulnerabilities within impacted populations to ensure that climate solutions do not perpetuate existing inequalities but instead foster inclusive resilience and empowerment. Overall, the climate justice framework integrates mitigation, adaptation, remediation, and transformation underpinned by equity, human rights, and inclusive governance, aiming to fairly and effectively address climate change for all communities.

Conclusion

“I do not wish them[women]to have power over men, but over themselves”. This quote by Mary Wollstonecraft from her renowned work, *A Vindication of the Rights of Women* (1792), reflects her faith in the individuality and autonomy of her agency. This belief has been the core identity of the feminist movement worldwide, which espouses equal rights and freedoms for women. It should be the state's and society's utmost priority to remove obstacles in the path of her empowerment. It is crucial to develop gender-sensitive strategies for addressing the environmental and humanitarian crises caused by climate change and the unequal distribution of natural resources. These strategies should aim to reduce the vulnerabilities of women, while also considering the unique challenges faced by men, to foster inclusive emergency responses. Women must be recognized and empowered as key environmental actors, participating alongside men in natural disaster management and decision-making. Patel, V., & Wichterich, C. (2013). Re-thinking gender and environmental justice: Lessons from India. *Development*, 56(2), 171-174. Such approaches should draw upon women's skills, resourcefulness, practical knowledge, lived experiences, and leadership capacities in both mitigation and adaptation efforts.

For adaptation and mitigation strategies and technologies to advance both gender and environmental justice, they must effectively reach those most in need, especially the poor and vulnerable. Three essential steps are required: First, recognize that women's situations often differ significantly from those of men. Second, ensure that technologies and strategies are tailored to fit the specific circumstances of women. Third, guarantee full access for women to relevant knowledge, information, and technologies for adaptation.

Feminist and social science frameworks—such as feminist climate justice and feminist environmental justice—make it clear that genuine environmental equity is unattainable without

systemic change. These frameworks call for an approach rooted in intersectionality, participatory justice, and redistribution. True progress requires moving beyond token gender inclusion and advocating for the restructuring of both social and environmental systems, ensuring that marginalized voices and knowledges are at the forefront in building a just and sustainable world.

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